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Three new species of the genus *Ancistroceron* Semper (Lepidoptera, Zygaenidae, Callizygaeninae) from mainland Southeast Asia

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Abstract: Three new species of the callizygaenid genus *Ancistroceron* Semper, 1898 are described from mainland Southeast Asia: *A. multicolor* **sp. nov.** (North Thailand, Central & South Laos & South Vietnam), *A. angustipterum* **sp. nov.** (South Vietnam) and *A. vietnamense* **sp. nov.** (South Vietnam). The comparison is made with *A. venusta* (Jordan, 1912), *A. hainanum* Huang & Horie, 2026, *A. toshitsugui* Huang & Horie, 2026 and *A. unipuncta* (Swinhoe, 1904). The adults and genitalia of the aforementioned taxa are illustrated.

Keywords: Borneo, Callizygaeninae, China, genitalia, Indochina, new species, taxonomy

中南半岛产钩丽斑蛾属三新种（鳞翅目，斑蛾科，丽斑蛾亚科）

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摘要：本文描述了来自中南半岛的钩丽斑蛾属 *Ancistroceron* Semper, 1898 三新种，即产自泰国北部、老挝中部及南部与越南南部的多色钩丽斑蛾 *A. multicolor* **sp. nov.** 与同产自越南南部的窄翅钩丽斑蛾 *A. angustipterum* **sp. nov.** 和越南钩丽斑蛾 *A. vietnamense* **sp. nov.**。本文图示并比较了新种与其近似种的成虫及生殖器。

关键词：婆罗洲，丽斑蛾亚科，中国，生殖器，印支半岛，新种，分类学

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Introduction

The callizygaenid genus *Ancistroceron* Semper, 1898 is a small group currently known from southern China, through mainland Southeast Asia to Greater Sunda Islands and the Philippines (Huang *et al*. 2026). Members of the genus are mainly small moths, characterised by narrow wings and metallic wing patterns. In male genitalia, *Ancistroceron* can be readily distinguished from *Mydrothauma* Butler, 1892 and *Callizygaena* Felder, 1874 by the spiral-shaped, strongly sclerotised distal section of phallus, while that in *Mydrothauma* bears a fan-shaped carinal plate and in *Callizygaena* lacks any specialized structure. In female genitalia, the antrum of *Ancistroceron* bears a funnel-shaped posterior section and a spiral anterior section corresponding to the spiral distal section of phallus in male, whereas the antrum is triangular in *Mydrothauma* and absent in *Callizygaena* (Huang *et al*. 2026).

In the course of studies on the callizygaenid moths from Southeast Asia, we discovered three additional new species of *Ancistroceron* from mainland Southeast Asia, which we describe herein. We also provide an updated checklist of the genus accordingly.

Material and methods

Specimens examined are deposited in the following institutional and private collections: The Natural History Museum (NHMUK), London, UK; the Leibniz Institute for the Analysis of Biodiversity Change, Museum Koenig (ZFMK, former Zoologisches Forschungsmuseum Alexander Koenig), Bonn, Germany; the Kitakyushu Museum of Natural History and Human History (KMNH), Kitakyushu, Japan; the research collection of Kiyoshi Horie (CKH), Tokyo, Japan, the research collection of Bernard Mollet (CBM), Gif-sur-Yvette, France and the National Museum of Nature and Science (NSMT), Tsukuba, Japan. Photos of imagines were taken by a Sony DSC-RX100 v1.00 camera, a Canon EOS 6D or with a Panasonic DC-G91. Abdomens were removed and macerated in hot 10% NaOH or KOH solution for examination of male and female genitalia. Photos of genitalia were taken under a Keyence VHX-7000 digital microscope or with a Canon EOS 5DS R. Adult and genitalia photos were all processed by Adobe Photoshop CS5 ® software. Terminology of adult and genitalia morphology follows Klots (1970) and Huang *et al*. (2026). Abbreviations used in the plates: HT = holotype; PT = paratype; LT = lectotype; PLT = paralectotype; gen. slide No. = genitalia slide number.

Label data. For the holotype label citations, information provided in quotation marks is transcribed verbatim. Different labels are separated by a forward slash ("/") while the different lines of the same label are separated by a vertical bar ("|"). Any additional data are provided in square brackets. The content of the labels of additional specimens examined including paratypes and paralectotypes is edited/translated in accordance with English grammar and standardized.

Results

Genus *Ancistroceron* Semper, 1898

Ancistroceron Semper, 1898: 427; **type species:** *Ancistroceron glaucon* Semper, 1898, by monotypy.

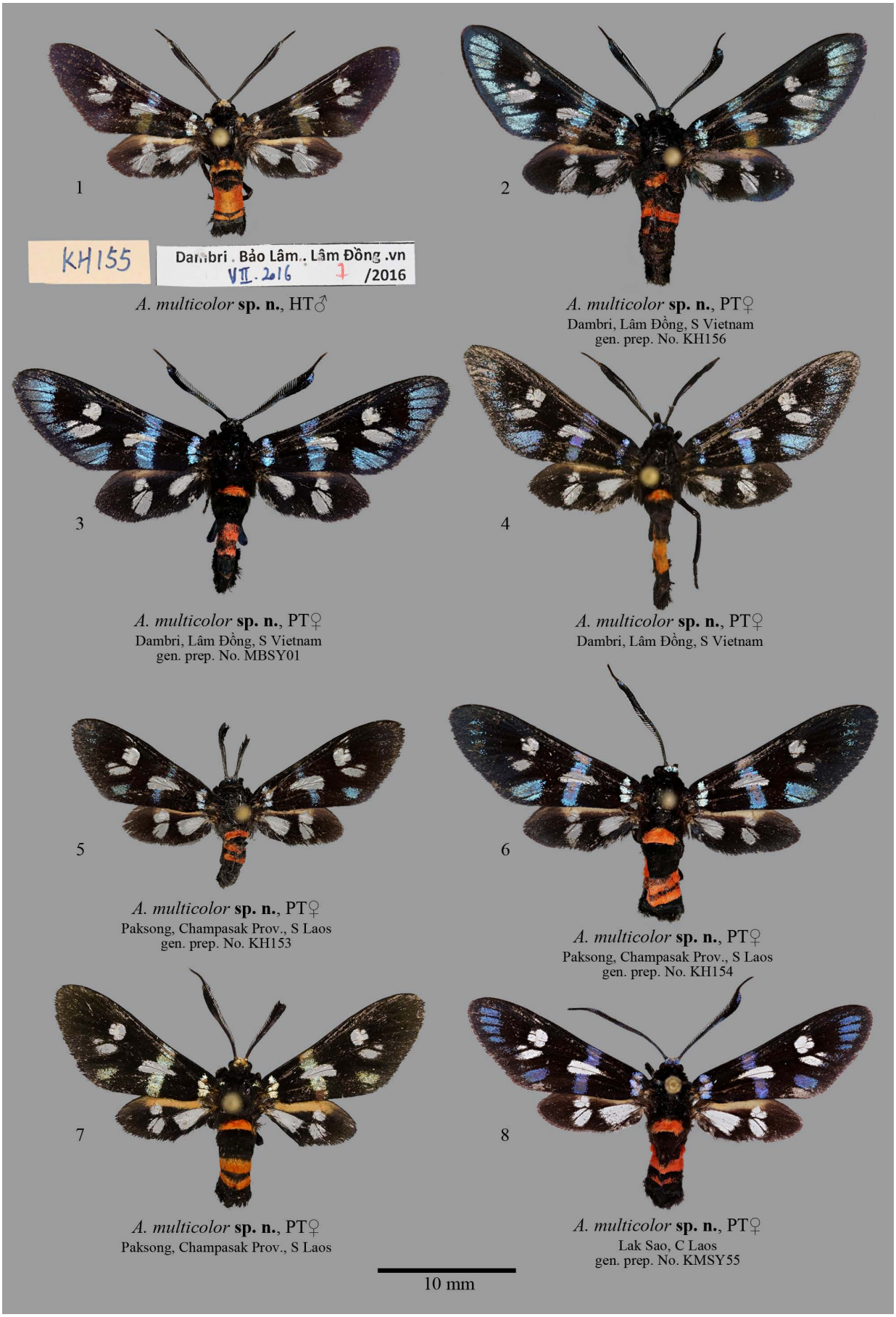
= *Pteroceropsis* Swinhoe, 1904: 154; **type species:** *Pteroceropsis unipuncta* Swinhoe, 1904

Ancistroceron multicolor sp. nov. 多色钩丽斑蛾

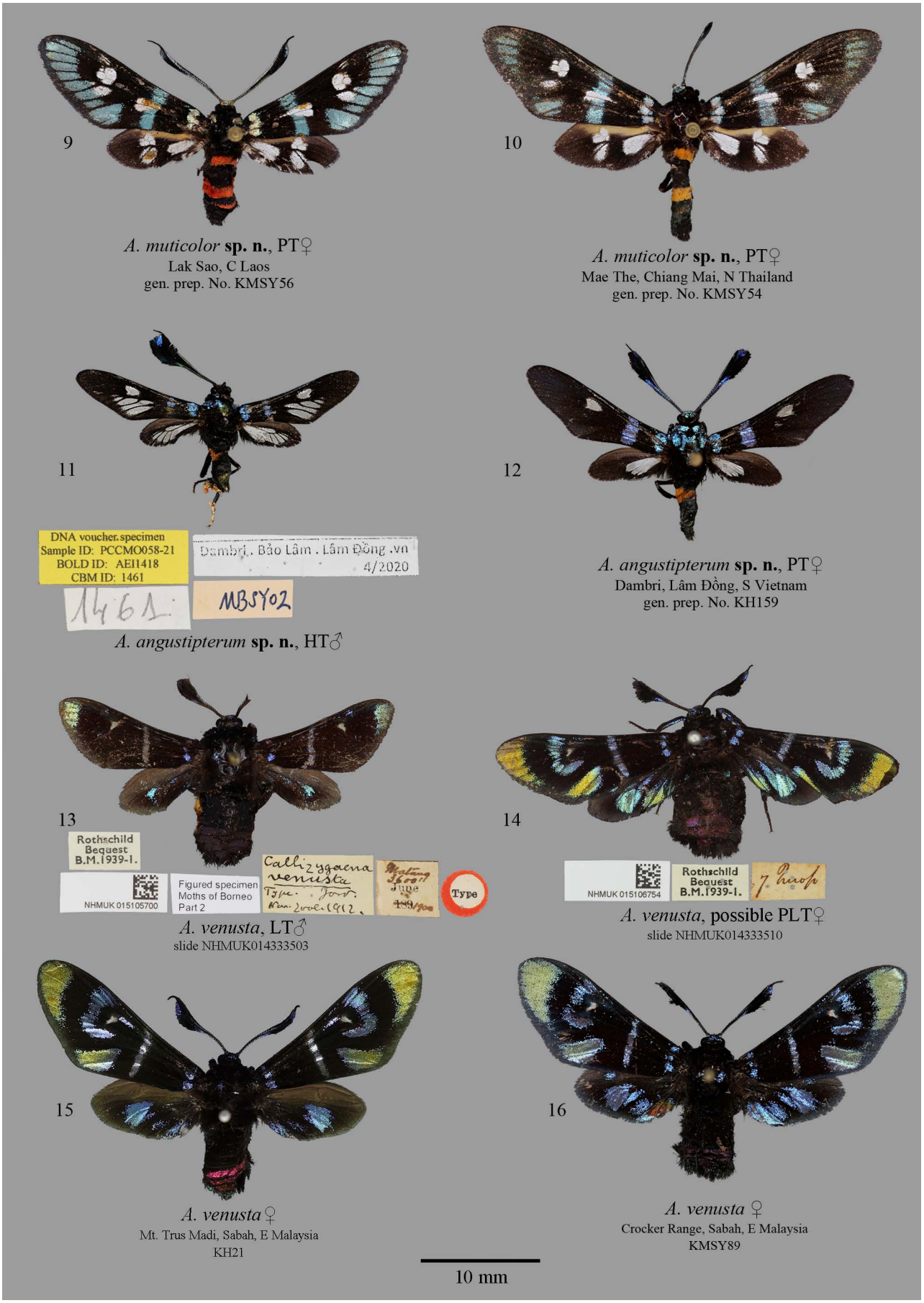
https://zoobank.org/CCD0C73E-5B54-4260-8D0C-09E3146B4E6C

Figs 1–10, 25, 32–38

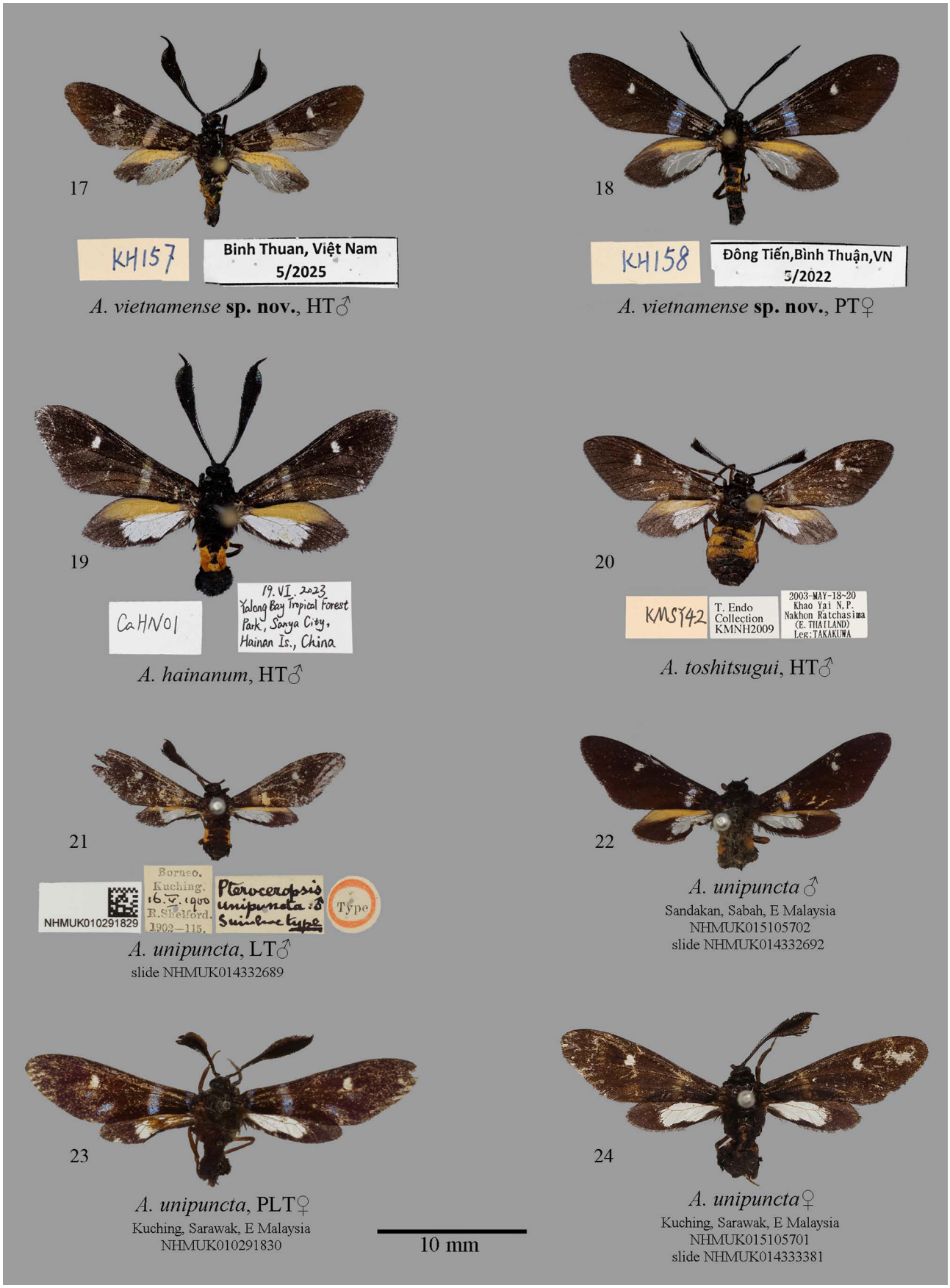
Material examined. Holotype: male, printed and handwritten label "Dambri, Bảo Lâm, Lâm Đồng .vn | VII. 2016 7/2016" / handwritten label "KH155" (CKH, will be deposited in NSMT). **Paratypes: VIETNAM:** 2 females, same data as in holotype, gen. prep. No. KH156 (CKH); 1 female, same data as in holotype, but V.2017 (CKH); 1 female, same data as



FIGURES 1–8. Adults of *Ancistroceron multicolor* **sp. n.** Depository of the specimens: **1, 2, 4–7** in CKH **3** in CBM **8** in KMNH.

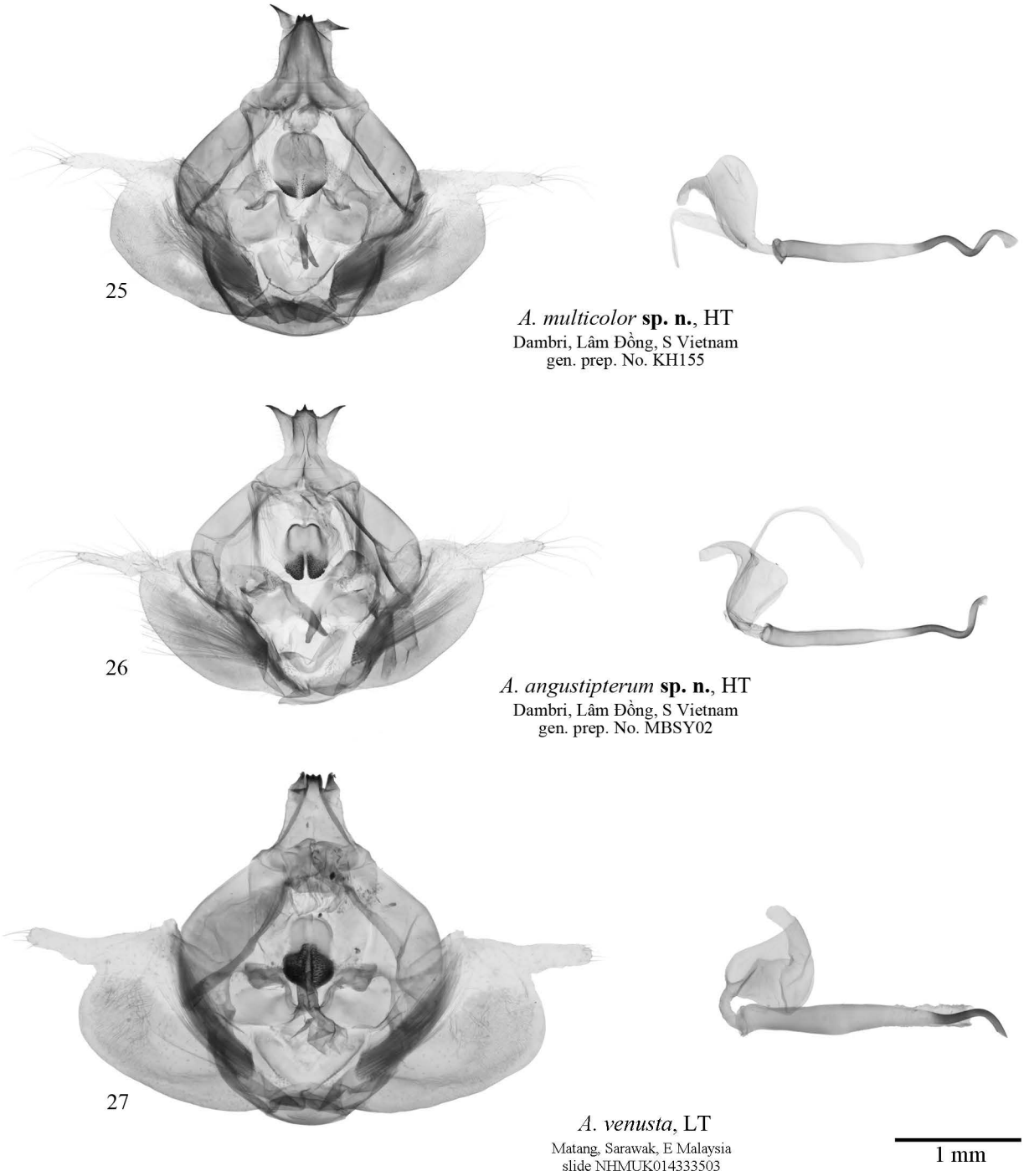


FIGURES 9–16. Adults of *Ancistroceron* spp. Depository of the specimens: **9, 10 & 16** in KMNH **11** in CBM **12 & 15** in CKH **13 & 14** in NHMUK (©The Trustees of NHMUK).



FIGURES 17–24. Adults of *Ancistroceron* spp. Depository of the specimens: **17 & 18** in CKH **19** in ZFMK **20** in KMNH **21–24** in NHMUK (©The Trustees of NHMUK).

in holotype, but V.2025, gen. prep. No. MBSY01 (CBM); 1 female, 25. IV. 1998, Lam Dong, alt. 1300 m, 11.5°N, 108.2°E, S Vietnam, leg. Akio Shinkai (CKH); 1 female, VI. 2019, Lam Dong, Bao Lam, Bao Loc, leg. native collector (CKH); **LAOS:** 4 females, 16. V. 2019, Tad Fane 941 m, Paksong, Champasak, Laos, leg. Mao Kobayashi, gen. prep. No. KH153 & KH154 (CKH); 1 female, 13. III. 1999, Lak Sao, Laos, ex. Endo collection, gen. prep. No. KMSY55 (KMNH); 1 female, same data, but 12. III. 1999, gen. prep. No. KMSY56 (KMNH); **THAILAND:** 1 female, 3. VI. 1988, Mae The, Chiang Mai, N Thailand, ex. Endo collection, gen. prep. No. KMSY54 (KMNH).



FIGURES 25–27. Male genitalia of *Ancistroceron* spp. Depository of the specimens: **25** in CKH **26** in CBM **27** in NHMUK (©The Trustees of NHMUK).

Diagnosis. Superficially, *Ancistroceron multicolor* **sp. nov.** can be distinguished from all the congeners by the presence of two or three prominent orange red to crimson bands on abdomen and the presence of transparent patches in the medial section of the spaces CuP and CuA_2 on forewing. In male genitalia, *A. multicolor* **sp. nov.** is reminiscent of *A. angustipterum* **sp. nov.** described below, but can be distinguished by the slightly broader medial diaphragmal plate with a smaller lower bulged section, the slightly narrower distal section of posterior tegumenal process and the slightly longer spiral distal section of phallus. The male genitalia of *A. multicolor* **sp. nov.** are also somewhat similar to those of *A. venusta* (Jordan, 1912) (Figs 13–16, 27, 40, 41) from Borneo, but can be readily distinguished by the longer and larger lateral lobe of uncus, the slightly broader medial diaphragmal plate with a much smaller lower bulged section and the slightly narrower distal section of posterior tegumenal process. The female genitalia of *A. multicolor* **sp. nov.** differ from those of *A. angustipterum* **sp. nov.** by the larger postvaginal plate, and differ from those of *A. venusta* by the smaller postvaginal plate and the generally shorter and broader sclerotised margin of ostium.

Description. Male. (Fig. 1) Length of forewing 12.8 mm. Antennae black thoroughly with white subapical patch, bipectinate and gradually broadened towards the subapical section and abruptly narrowed in its distal end. Head white dorsally. Thorax black. Abdomen black dorsally with three orange red bands, ventrally orange in basal half and black in distal half. Forewing long triangular, ground color black with metallic pale blue patterns and transparent patches. Subbasal band present, slightly narrower than the antemedial band. Antemedial band present, extending from costa to dorsum. Discal cell patch presented, rectangular, located at the distal end of the discoidal cell and transparent. Transparent patch presented at the base of cells R_5, M_1, M_3 and CuA_1, and the medial section of cells CuP and CuA_2. The distal section of cell CuP slightly suffused with metallic blue scales. Cilia black. Hindwing oval, ground color black. A large pale yellow patch extending from wingbase to subapical area, occupying more than two thirds of the area of discoidal cell. Transparent patches presented at the distal end of discoidal cell and in cells 2A to Rs, size variable. Cilia black. **Male genitalia.** (Fig. 25) Uncus somewhat trapezoid with its lateral margins concave medially and the distal section trilobated. The medial lobe bearing three distal denticles. Tegumen trapezoid with rounded margins. Medial diaphragmal plate shield-like with its lower section more strongly sclerotised, bulged and covered with granulations. Posterior tegumenal process rectangular basally and abruptly narrowed at the medial section and forming a rodlike process distally. Vinculum slender. Juxta V-shaped. Saccus stout. Valvae ca 0.4 × the breadth of tegumen, costa band-like and slightly sclerotised, sacculus nearly oval and moderately sclerotised, distal membranous lobe about one fifth of the breadth of uncus and bearing setae distally. Phallus slender, with its basal half cylindrical and distal half spiral.

Female. (Figs 2–10) Length of forewing 11.5–14.8 mm. Body similar to that in male, but differing in the antennae subapically bearing metallic blue patch, head dorsally metallic blue and the second band on the dorsal side of abdomen much narrower. Forewing pattern similar to male but generally with better developed metallic blue patterns. Hindwing as in male but generally with smaller transparent patches. **Female genitalia.** (Figs 32–38) Ovipositor stout. Apophysis anterioris and apophysis posterioris strongly sclerotized with the former much shorter than the latter. Apophysis anterioris varied in breadth, sometimes slightly broader than the apophysis posterioris while sometimes almost twice as broad as it. Postvaginal plate shield-like. Sclerotised margin of ostium varied from rectangular to long triangular. Ostium rounded. Antrum triangular posteriorly and spiral anteriorly. Ductus bursae membranous. Pseudobursa rounded. Corpus bursae oval and membranous, bearing a characteristic leaf vein-like signum of various sizes.

Etymology. The specific epithet *multicolor* refers to the colorful superficial appearance of the new species. It is an adjective.

Distribution. North Thailand, Central & South Laos & South Vietnam.

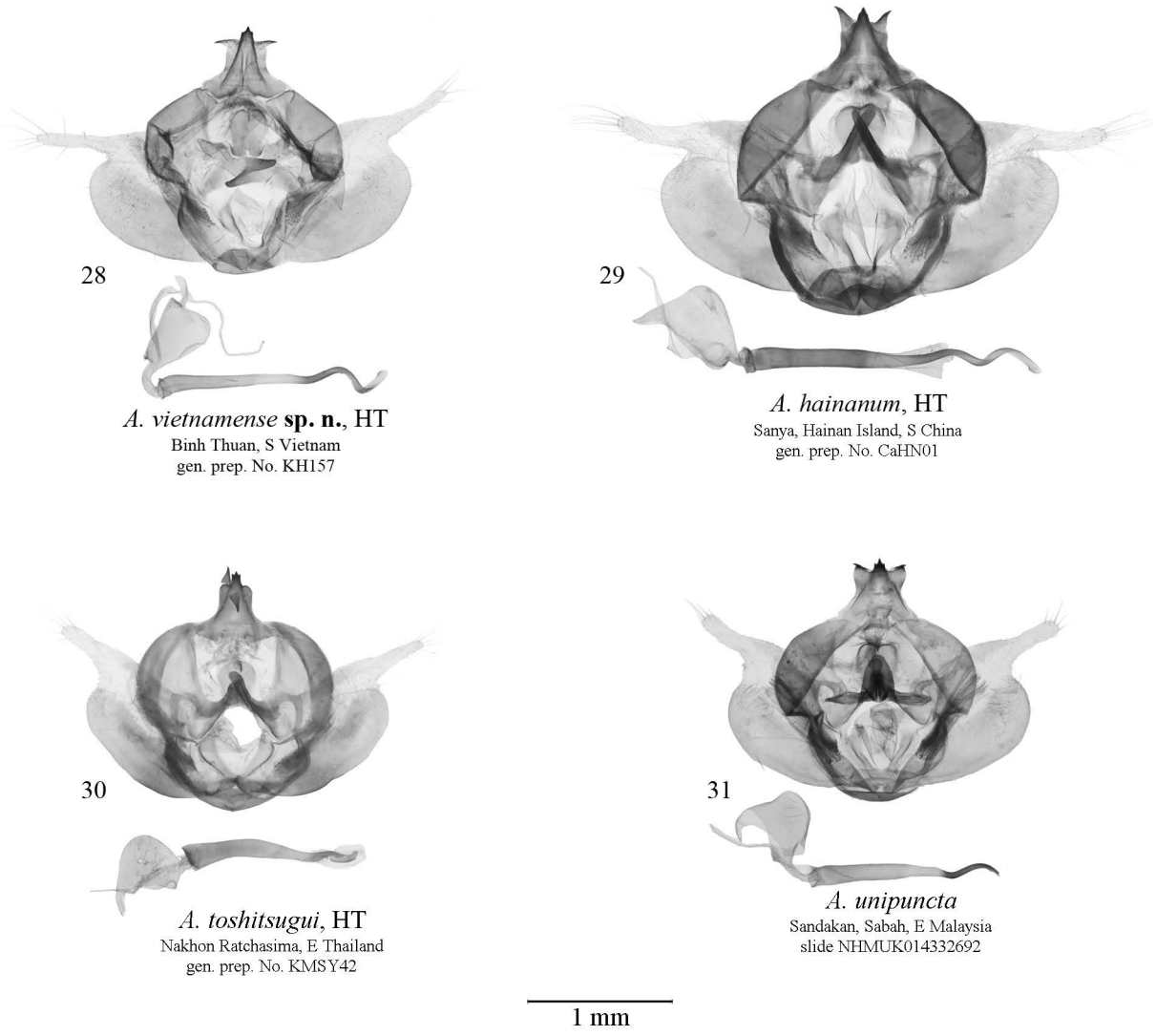
Ancistroceron angustipterum sp. nov. 窄翅钩丽斑蛾

https://zoobank.org/087428C7-7049-4EC5-9F91-8044A12857A8

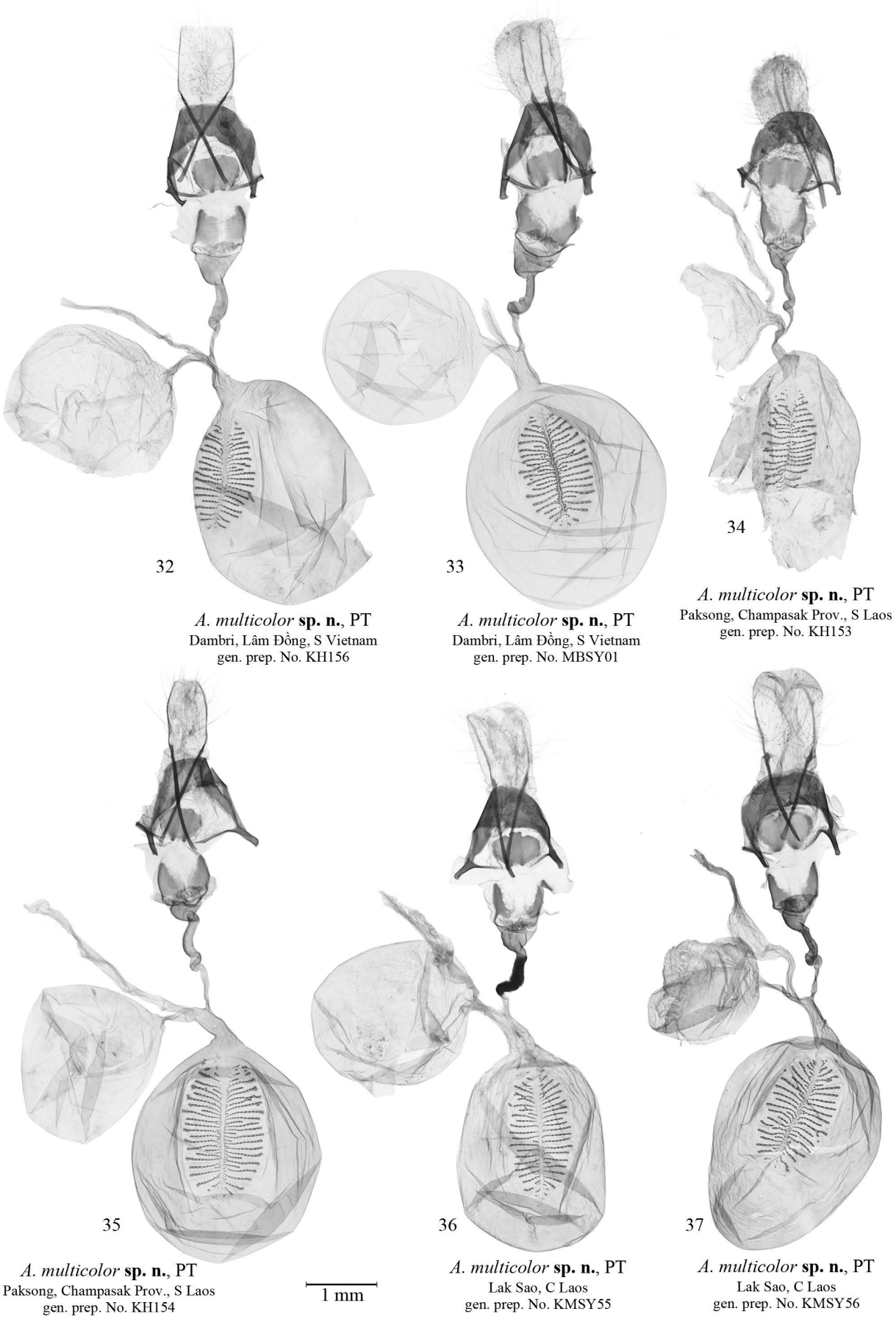
Figs 11, 12, 26, 39

Material examined. Holotype: male, printed label "Dambri, Bảo Lâm, Lâm Đồng .vn | 4/2020" / printed label "DNA voucher specimen | Sample ID: PCCMO058-21 | BOLD ID: AEI1418 | CBM ID: 1461" / handwritten label "1461" / handwritten label "MBSY02" (CBM). **Paratype:** 1 female, same data as in holotype, gen. prep. No. KH159 (CKH).

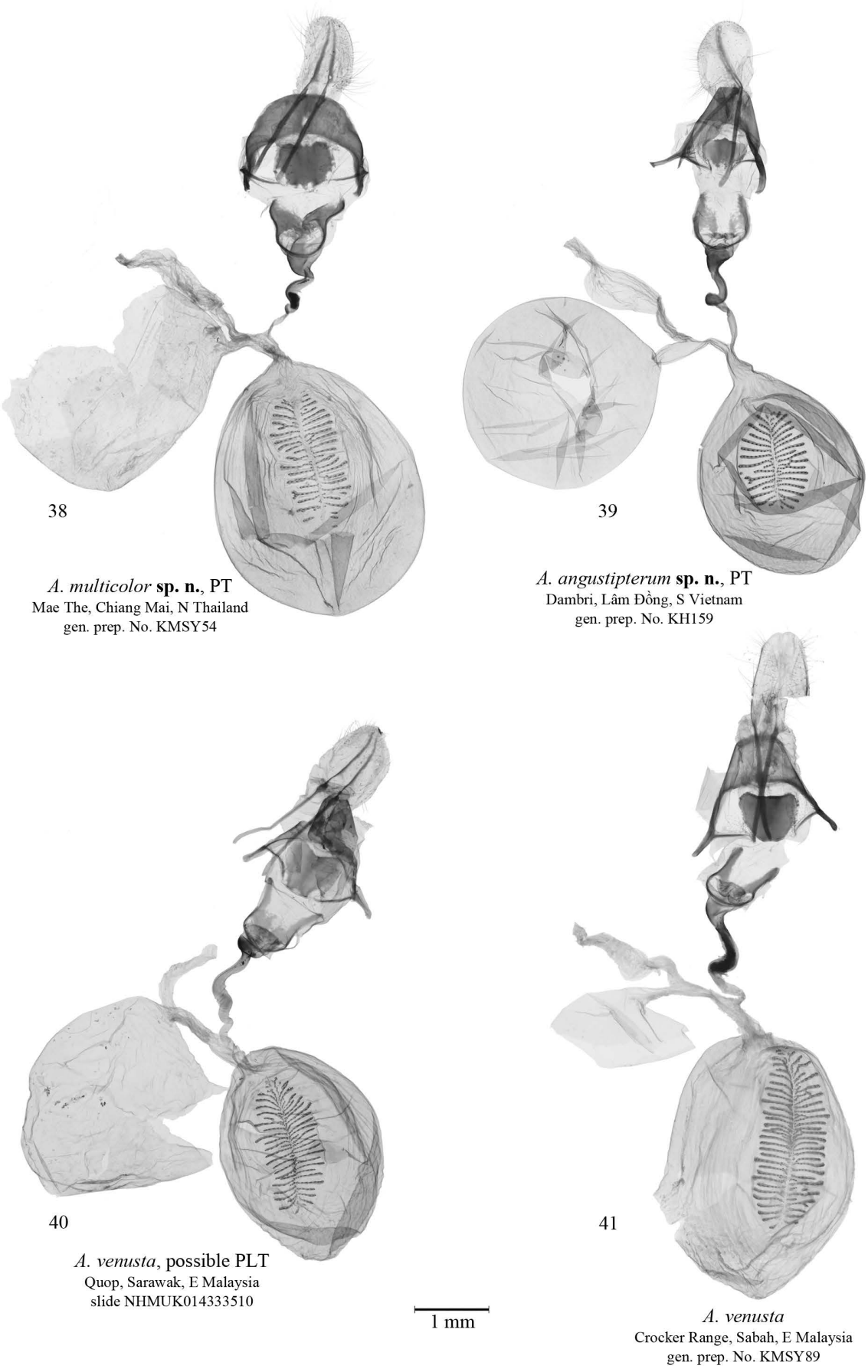
Diagnosis. Superficially, *Ancistroceron angustipterum* **sp. nov.** can be distinguished from all congeners by the narrow and elongated forewing in both sexes. In male genitalia, *A. angustipterum* **sp. nov.** is reminiscent of *A. multicolor* **sp. nov.** and the detailed comparison has been provided in the diagnosis of the latter species. The new species is also somewhat similar to *A. venusta* (Jordan, 1912) (Figs 13–16, 27, 40, 41) from Borneo, but can be readily distinguished by the longer and larger lateral lobe of uncus and the much smaller bulged section on the medial diaphragmal plate. In female genitalia, *A. angustipterum* **sp. nov.** differs from *A. multicolor* **sp. nov.** and *A. venusta* in having a smaller postvaginal plate.



FIGURES 28–31. Male genitalia of *Ancistroceron* spp. Depository of the specimens: **28** in CKH **29** in ZFMK **30** in KMNH **31** in NHMUK (©The Trustees of NHMUK).



FIGURES 32–37. Female genitalia of *Ancistroceron multicolor* **sp. n.** Depository of the specimens: **32, 34 & 35** in CKH **33** in CBM **36 & 37** in KMNH.



FIGURES 38–41. Female genitalia of *Ancistroceron* spp. Depository of the specimens: **38 & 41** in KMNH **39** in CKH **40** in NHMUK (©The Trustees of NHMUK).

Description. Male. (Fig. 11) Length of forewing 10.5 mm. Antennae black thoroughly with metallic blue subapical patch, bipectinate and gradually broadened towards the subapical section and abruptly narrowed in its distal end. Head black. Thorax black, suffused with metallic blue scales. Abdomen black, bearing an orange band basally. Forewing long triangular, ground color black with metallic pale blue patterns and transparent patches. Subbasal band present, ca 1.5× the breadth of the antemedial band. Antemedial band present, extending from costa to dorsum. Discal cell patch presented, oval, located at the distal end of the discoidal cell and transparent. Transparent patch presented at the base of cells M_2 to CuA_1, and the distal section of cells CuP and CuA_2. Cilia black. Hindwing oval, ground color black and becoming paler in the costal and apical areas. Transparent patches presented at the lower half of discoidal cell and in cells 2A to M_1, size variable. Cilia black. **Male genitalia.** (Fig. 26) Uncus somewhat trapezoid with its lateral margins concave medially and the distal section trilobated. The medial lobe bearing three distal denticles, with the medial one much larger and longer than the other two. Tegumen trapezoid with rounded margins. Medial diaphragmal plate shield-like with its lower section more strongly sclerotised, bulged and covered with granulations. Posterior tegumenal process nearly rectangular basally and abruptly narrowed at the medial section and forming a bayonet-like process distally. Vinculum slender. Juxta V-shaped. Saccus stout. Valvae ca 0.4 × the breadth of tegumen, costa band-like and slightly sclerotised, sacculus nearly oval and moderately sclerotised, distal membranous lobe about one third of the breadth of uncus and bearing setae distally. Phallus slender, with its basal half cylindrical and distal half spiral.

Female. (Fig. 12) Length of forewing 13 mm. Body similar to that in male, but differing in the dorsal surface of antennae and thorax bearing stronger metallic blue suffusion. Forewing pattern similar to male but with broader transverse bands and without transparent patches in postmedial area. Hindwing as in male but only with transparent patches in cells 2A to CuA_2. **Female genitalia.** (Fig. 39) Ovipositor stout. Apophysis anterioris and apophysis posterioris strongly sclerotised with the latter about 3.5 × the length of the former. Postvaginal plate shield-like. Sclerotised margin of ostium rodlike, with weakly sclerotised interior extension. Ostium rounded. Antrum triangular posteriorly and spiral anteriorly. Ductus bursae membranous. Pseudobursa rounded. Corpus bursae oval and membranous, bearing a characteristic leaf vein-like signum.

Etymology. The specific epithet *angustipterum* refers to the narrow forewing of the new species which is characteristic. It is an adjective.

Distribution. South Vietnam.

Ancistroceron vietnamense sp. nov. 越南钩丽斑蛾

https://zoobank.org/8B02F624-540B-4097-880A-87CAFC240CD2

Figs 17, 18, 28 & 42

Material examined. Holotype: male, printed label “Binh Thuan, Việt Nam | 5/2025” / handwritten label “KH157” (CKH, will be deposited in NSMT). **Paratype:** 2 females, V. 2022, Đồng Tiền, Bình Thuận, South Vietnam, gen. prep. No. KH158 (CKH).

Diagnosis. Superficially, *Ancistroceron vietnamense* **sp. nov.** is reminiscent of *A. hainanum* Huang & Horie, 2026 (Figs 19 & 29) and *A. toshitsugui* Huang & Horie, 2026 (Figs 20 & 30) and can be distinguished from the former by the smaller size, the shorter antennae, the narrower forewing and the more obliquely placed antemedial metallic band on forewing, and from the latter by the narrower forewing and the slightly broader and more distally located antemedial metallic band on forewing. The new species is also similar to *A. unipuncta* (Swinhoe, 1904) (Figs 21–24, 31 & 43), but differs by the less protruding forewing apex in both sexes. In male genitalia, *A. vietnamense* **sp. nov.** differs from *A. hainanum*, *A. toshitsugui* and *A. unipuncta* in the long triangular distal section of posterior tegumenal process and the narrower membranous distal lobe, while in the latter three species the distal section of posterior tegumenal process is generally rodlike. In addition, the phallus of *A. vietnamense* **sp. nov.** is shorter and basally narrower than that in *A. hainanum*, and the basal cylindrical section is longer than that in *A.*

toshitsugui and *A. unipuncta*. In female genitalia, since the females of *A. hainanum* and *A. toshitsugui* is unknown, the comparison is made with *A. unipuncta*, from which *A. vietnamense* **sp. nov.** differs in having a narrower postvaginal plate.

Description. Male. (Fig. 17) Length of forewing 9.7 mm. Antennae black thoroughly with metallic blue subapical patch, bipectinate and gradually broadened towards the subapical section and abruptly narrowed in its distal end. Head and thorax black, with patagia slightly suffused with metallic blue. Abdomen black dorsally with its lateral and ventral sides yellow in basal half. Forewing long triangular, ground color black with metallic pale blue patterns and transparent patches. Subbasal area slightly suffused with metallic blue scales. Antemedial band present, extending from costa to dorsum. Discal cell patch presented, rectangular, located at the distal end of the discoidal cell and transparent. Cilia black. Hindwing oval, ground color black. A large yellow patch extending from wingbase to subapical area, occupying more than two thirds of the area of discoidal cell. A slightly broader transparent area presented below the yellow patch, occupying the rest of the discoidal cell and part of the cells from 2A to M_2. Cilia black. **Male genitalia.** (Fig. 28) Uncus somewhat trapezoid with its lateral margins concave medially and the distal section trilobated. Tegumen trapezoid with rounded margins. Medial diaphragmal plate shield-like. Posterior tegumenal process nearly rectangular basally and abruptly narrowed at the medial section and forming a long triangular process distally. Vinculum slender. Juxta V-shaped. Saccus stout. Valvae ca 0.5 × the breadth of tegumen, costa band-like and slightly sclerotised, sacculus nearly oval and moderately sclerotised, distal membranous lobe about one third of the breadth of uncus and bearing setae distally. Phallus slender, with its basal half cylindrical and distal half spiral.

Female. (Fig. 18) Length of forewing 11.3 mm. Body similar to that in male. Forewing similar to male but with apex more rounded, wing patterns similar to male but with smaller discoidal cell patch. Hindwing as in male but with smaller yellow patch. **Female genitalia.** (Fig. 42) Ovipositor stout. Apophysis anterioris and apophysis posterioris strongly sclerotised with the former about one forth of the length of the latter. Postvaginal plate shield-like, concave at its posterior margin. Sclerotised margin of ostium slender. Ostium rounded. Antrum triangular posteriorly and spiral anteriorly. Ductus bursae membranous. Pseudobursa oval. Corpus bursae oval and membranous, bearing a characteristic leaf vein-like signum.

Etymology. The new species is named after the country Vietnam. The species epithet is an adjective.

Distribution. South Vietnam.

An updated checklist of the genus *Ancistroceron*

***Ancistroceron* Semper, 1898 钩丽斑蛾属**

= *Pteroceropsis* Swinhoe, 1904

Ancistroceron amabilis (Jordan, 1907) 喜钩丽斑蛾

Ancistroceron angustipterum Huang & Horie **sp. nov.** 窄翅钩丽斑蛾 **新种**

Ancistroceron flaviplaga **(**Hering, 1925) 黄斑钩丽斑蛾

Ancistroceron glaucon Semper, 1898 钩丽斑蛾

Ancistroceron hainanum Huang & Horie, 2026 海南钩丽斑蛾

Ancistroceron luzonensis (Semper, 1898) 吕宋钩丽斑蛾

Ancistroceron multicolor Huang & Horie **sp. nov.** 多色钩丽斑蛾 **新种**

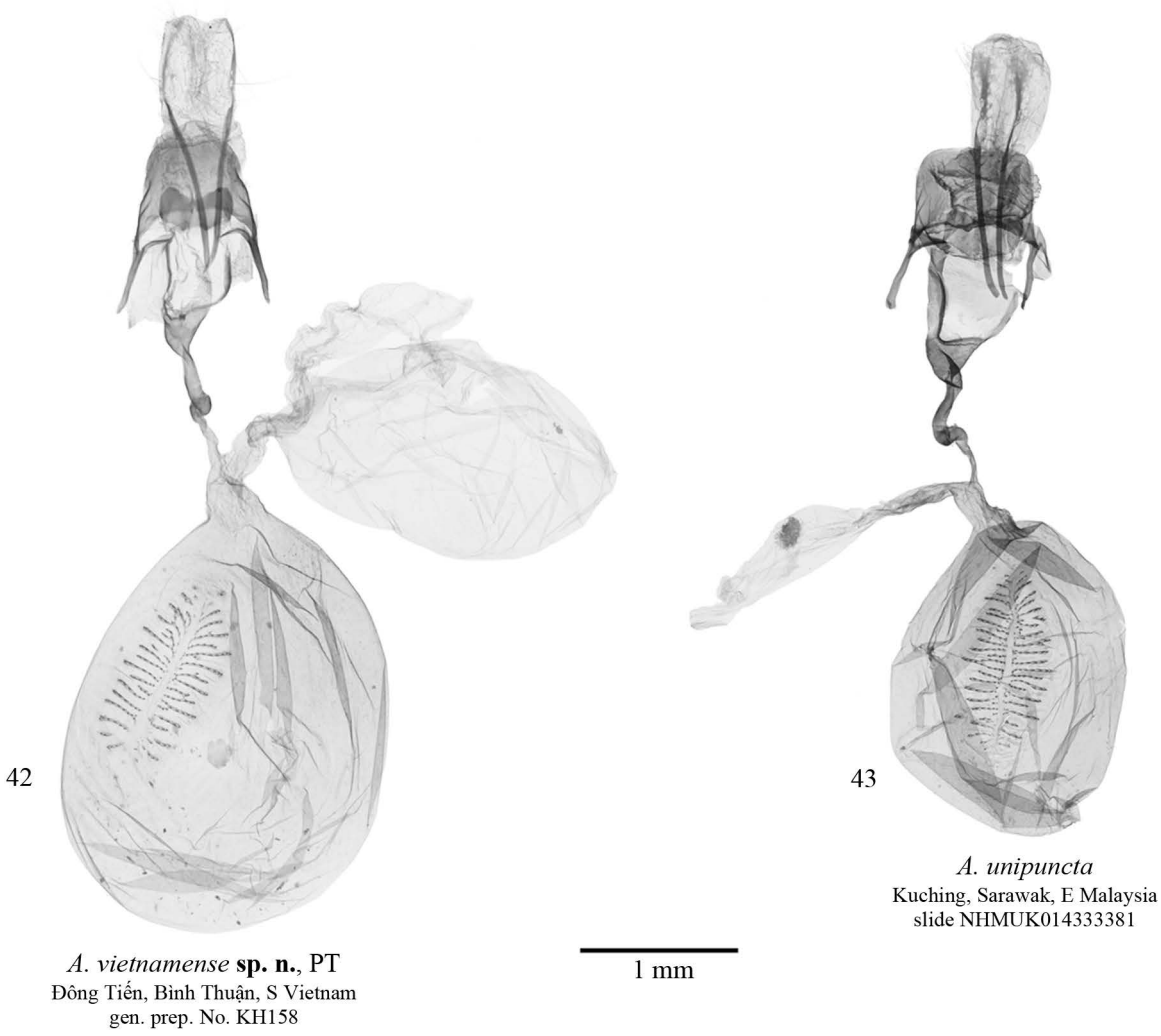
Ancistroceron schultzei Huang & Horie, 2026 舒尔茨钩丽斑蛾

Ancistroceron toshitsugui Huang & Horie, 2026 俊次钩丽斑蛾

Ancistroceron unipuncta (Swinhoe, 1904) 单斑钩丽斑蛾

Ancistroceron venusta (Jordan, 1912) 雅钩丽斑蛾

Ancistroceron vietnamense Huang & Horie **sp. nov.** 越南钩丽斑蛾 **新种**



FIGURES 42–43. Female genitalia of *Ancistroceron* spp. Depository of the specimens: **42** in CKH **43** in NHMUK (©The Trustees of NHMUK).

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